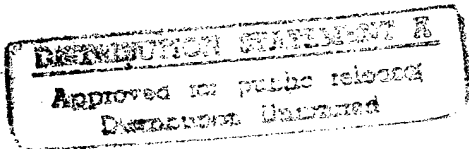


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KEEPING THE JFACC AT THE OPERATIONAL LEVEL

by

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A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Military Operations. The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

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ABSTRACT of

KEEPING THE JFACC AT THE OPERATIONAL LEVEL

The Joint Force Air Component (JFACC) concept has been significantly developed over the last few years, yet it is still a cause for controversy among warfighters engaged at every level of warfare. As a functional component commander for the Joint Force Commander (JFC) or possibly a Unified Commander-in-Chief (CINC), the JFACC is oriented to operate at the *operational* level of war (and operations other than war). This paper discusses how the JFACC interacts at the *strategic-operational* level and also at the *operational-tactical* level and makes recommendations on how (and why) to keep the JFACC focused on the operational level.

PREFACE

Much of the information for this paper is derived from personal experience and observations from the past 13 years of duty associated with naval aviation. This includes several tours flying the FA-18 aircraft in training, exercise, and combat roles. Experience in several joint and combined exercises as well as real world contingency and combat missions has provided the backdrop for witnessing the evolution of the JFACC. In addition to a NATO exchange operational flying tour, this experience most recently includes missions in support of Operation Southern Watch in Iraq and Operation Deliberate Force in Bosnia, followed by participation in Exercise Unified Endeavor 1-96 as a member of the JFACC staff.

INTRODUCTION

Operational Level of War - the level of war at which campaigns and major operations are planned, conducted, and sustained to accomplish objectives within theaters or areas of operations. Activities at this level link tactics and strategy by establishing operational objectives needed to accomplish the strategic objectives, sequencing events to achieve the operational objectives, initiating actions, and applying resources to bring about and sustain these events. These activities imply a broader dimension of time and space than do tactics; they ensure the logistic and administrative support of tactical forces, and provide the means by which tactical successes are exploited to achieve strategic objectives.

Joint Pub 1-02; Joint Pub 3-0¹

The different levels of war cover a broad spectrum. Since every operation, war, and military operation other than war (MOOTW) is unique, it is easier to put a definition on paper than it is to make a clear-cut distinction in the real world. The operational level of war does not correspond simply to the scale of the conflict; a geographically distinct area of operation (AO) may be the only area of the conflict or it may be one of several in a grand scheme. In fact, the scale sometimes makes the operational level indistinguishable from the strategic and tactical levels. In the case of a single AO or theater, operational objectives often become synonymous with strategic objectives, and in the case of a small scale conflict, tactical execution may become the focus of the operational commander (and often his superiors).

Regardless of the scale of the operation, current doctrine places the operational level of conflict with either a Subordinate Unified Command or a Joint Task Force (JTF).² A Joint Force Commander (JFC) normally exercises operational control over attached forces and is responsible for achieving operational-level objectives. Also, the JFC has the responsibility of establishing command relationships in the JTF, and can choose to do this along either "service" or "functional" component lines. Normally, however, joint forces are organized

with a combination of service and functional components, each with operational responsibilities. Regardless of the structure, current doctrine dictates that "JFCs will normally designate a JFACC to exploit the capabilities of joint air operations. The JFACC directs this exploitation through a cohesive joint air operations plan (centralized planning) and a responsive and integrated control system (decentralized execution)." *³

The JFACC concept has continued to evolve over recent years, both through "real world" contingency operations and combined/joint exercises. This evolution has certainly enhanced the knowledge and (hopefully) the combat effectiveness of the participants; however, it has invariably evoked a controversial discussion that has been both rational and emotional. This controversy stems from various problems, not the least of which is fundamental misunderstanding—misunderstanding on the part of operators who do not really understand the functional relationship of the JFACC, the Joint Air Operations Center (JAOC), and the Air Tasking Order (ATO); misunderstanding by members of the JFACC staff, who either overstep their authority or understep their responsibility; and finally, misunderstanding by the Joint Force and component staff personnel, who can undermine the entire process before an operation even begins. Other problems that add fuel to the controversy are service parochialism, vague doctrine, and misinterpretation by people with genuine and legitimate concerns for effective warfighting, but who fail to realize that every operation is different, and therefore may require a unique solution. (These are the same people who say that the "one-size-fits-all" JFACC will work, whether it is a MOOTW or a major regional contingency).

* In cases where the JFC does not designate a JFACC, the JFC's staff carries out the same function. This is not unusual for very small scale operations or operations of limited duration. In this paper, the term "JFACC" is used to imply either situation.

Without a doubt, what is universally agreed upon is that mission success must always be the top priority. This can be achieved by each component of a joint integrated force accomplishing clearly defined goals in order to achieve unity of effort for a common purpose. In the case of the JFACC, these goals are established by the JFC. "With the receipt of the mission (by the JFACC) goes the authority to conduct operations in accordance with the JFC's intent and concept of the operation."⁴ Current joint doctrine includes a set of guidelines for JFACC responsibilities (although specific direction is ultimately up to the JFC):

JFACC RESPONSIBILITIES⁵

- Developing a joint air operations plan to best support joint force objectives,
- Recommending to the JFC apportionment of the joint air effort, after consulting with other component commanders,
- Providing centralized direction for the allocation and tasking of capabilities/forces made available,
- Controlling execution of joint operations as specified by the JFC,
- Coordinating joint air operations with operations of other component commanders and forces assigned to or supporting the JFC,
- Evaluating the results of joint air operations,
- When assigned by the JFC, performing the duties of the airspace control authority (ACA) and/or area air defense commander (AADC),
- Functioning as a supported and supporting commander, as directed by the JFC.

What is important to note about this list is that it can be *interpreted* as being very broad. It covers the spectrum from "planning" and "developing" to "controlling execution" and "evaluating results". This wide range of responsibilities should normally be clarified by the JFC; however, vague direction, poor communication, or improper understanding of the JFACC's role can cause reduced warfighting effectiveness and overall mission degradation.

As one of the functional component commanders for the JFC at the operational level, the JFACC plays a major role in developing and executing the strategic direction of the Joint Force. Concurrently, by controlling and coordinating joint air operations, he also readily

influences operations at the tactical level. The capacity to influence both strategic direction and tactical execution, however, does not necessarily make this the best course of action. Each relationship, the *strategic-operational* and the *operational-tactical*, warrants distinct analysis.

JFACC at the Strategic-Operational Level

Strategic Level of War—the level of war at which a nation or group of nations determines national or alliance security objectives and develops and uses national resources to accomplish those objectives. Activities at this level establish national and alliance military objectives; sequence initiatives, define limits and assess risks for the use of military and other instruments of power; develop global or theater war plans to achieve those objectives, and provide armed forces and other capabilities in accordance with the strategic plan.

Department of Defense⁶

Regardless of the scope of an operation, strategy originates with the National Command Authority (NCA), is further developed and codified by the JCS and the CINC, and is ultimately interpreted for execution by the JFC, the component commanders, and their staffs. Does the JFACC, as a functional component commander, *make* the strategy? He can certainly influence and carry out strategy; moreover, his forces can most definitely have strategic impact. However, at the strategic level of war, he is just one of the participants who is part of a large team. Unfortunately, this is one area of misunderstanding that continues to pervade current thinking, and is a major area of friction at the strategic-operational level.

Prior to Desert Storm when the CINC and his component commanders, along with their staffs, were formulating a plan for defeating the Iraqis (and meeting the national/alliance objectives), the responsibility for development of strategy fell not just to the JFACC (or any other single component commander), but to a whole cross section of component representatives. The CINC did not look to just one of his component commanders, but to all

of them. Some recent historians and air power proponents will argue this point. They highlight the “five ring” doctrine espoused first by Col. John Warden and now by the U.S. Air Force, and make the case that it was this war-winning strategy—an *airpower strategy*—that effectively defeated the Iraqis. However, viewed from a different perspective, the “five ring” theory, or any other model, is not just an *airpower* theory—it is an *overall warfighting strategic theory*. Attacking the enemy at his centers-of-gravity, his critical vulnerabilities, across the “five rings”, or wherever, are all strategies—ones that can be accomplished in a variety of ways. Airpower is just one method of achieving strategic success. *

“Strategy is the art and science of developing and employing armed forces and other instruments of national power in a synchronized fashion to secure national (or multinational) objectives.”⁷ Should the task of strategic decision-making fall solely to the JFACC? Desert Storm lent itself to a period of preemptive massive attack through air power; however, future conflicts are likely to be very different.

The important point is that strategy and campaign planning must be done at a level above the JFACC. The component commanders make inputs and recommendations to the JFC (or the CINC) and a coordinated concept of operations for all of the participants is developed. The focus of the strategy may be on making territorial gains, executing a maritime blockade, or on preemptive air strikes; however, it is up to the JFC to synchronize the efforts objectives as effectively as possible.

* Much has been written in periodicals and official publications that suggest the conclusion that the principal strategic planning for Desert Storm was done by the a group called “Checkmate” from the Air Staff at the Pentagon and by a Special Planning Group nicknamed the “Black Hole” led by USAF BGEN Buster Glossen in theater. The debate centers around the makeup and the influence of these “air power advocates” and also the role these groups had in the overall strategic plan. One particularly consequential document is the Gulf Air Power Survey: Summary Report, pp. 33-53, by Thomas A. Keaney and Eliot A. Cohen.

A second area of friction for the JFACC at the strategic-operational level occurs when it comes to the subject of *targeting*. This is an emotional topic for many warfighters and one that is undergoing constant change.* Targeting is a cyclical process that begins with the commander's objectives, progresses through target development and force application, and ends with combat assessment.⁸ It is heavily dependent on both intelligence and the commander's objectives. Typically, the JFC establishes a Joint Targeting Coordination Board (JTCCB) to oversee this function, and this is usually where the friction begins.

Targeting at the strategic level works in parallel with overall campaign planning: it is a joint activity comprised of representatives of the JTF staff, each force component, and if required, selected experts with special training in the targeting function. The joint target list (JTL) that results from this process should be consistent with the JFC's targeting guidance, priorities, and campaign plan. The JFACC is responsible for coordinating the joint targeting plan, and therein lies the problem: if the joint *air* targeting plan becomes synonymous with the overall joint target list, confusion and competition arise.

The JTL is a list (or blueprint) of targets. They can be attacked by aircraft, troops on the ground, cruise missile, SOF forces, information warfare (computer attack), and maybe in the future by space based energy weapons. Because the method of attack is not necessarily predetermined, it is a joint list that is created and prosecuted by all of the warfare components. In practice, however, and particularly during a conflict such as Desert Storm, a large percentage of the targets is allocated to the JFACC. Very quickly the perception is that the JFACC controls the targeting process and hence the overall strategic planning effort. This

* Targeting is an area of ongoing debate and is difficult to consider as an isolated case. Related topics include "joint fires", the Joint Targeting Coordination Board (JTCCB), and "real time" versus pre-planned targeting.

situation creates confusion over who is really directing the operation and often creates dissension among the other components.

Some JFCs further exacerbate this problem by intentionally turning over the entire targeting process to the JFACC right up front. The JFACC staff schedules all joint "fires" on the JFACC's Air Tasking Order (ATO), thereby elevating the JFACC to the level of the JTCB. One can easily see why questions soon arise . . . "Why is every target being assigned to air strikes while ATACMs and TLAMs sit idle?"* . . . or . . . "Why are we bombing target XX when it is superfluous to the JFC's guidance?" Matching the proper resource to each target ensures the best utilization of forces and achieves maximum unity of effort. This, however, requires a clear distinction of the targeting functions for all of the components, not just the JFACC.

Targeting goes hand-in-hand with *tasking*, which is the third area of friction for the JFACC at the strategic level, and the logic previously discussed for targeting also applies in this case. The component commanders ensure that the tasking of subordinate units is consistent with the JFC's guidance and priorities. However, when it comes to air power, the JFACC, tasking across service component and functional component lines, can be in a particularly dependent position. The JFACC's interpretation of the JFC's guidance and priorities must be consistent with and supported by the other component commanders. This is an especially contentious issue for the commanders of Marine Air and Navy Air units, who often feel that their tasking is inconsistent with their assigned missions. The tasking dilemma

* ATACM is the Army's tactical missile system and TLAM is a sea launched land attack missile known as the Tomahawk.

caused a great deal of friction between Marine Air assets and the JFACC in Desert Storm and is still a source of keen doctrinal debate.⁹

While this is a vastly complicated issue at the practical level, many problems could be averted by ensuring that the deconfliction is done at the strategic-operational level when the command structure and JTF organization are delineated. Doctrinal issues should be worked out ahead of time in order to ensure that forces know their roles and train accordingly.

JFACC at the Operational-Tactical Level

Just as the distinction between the strategic and operational levels of conflict sometimes seems like a moving target, the separation between the operational and tactical levels is not always clear. “The tactical level of war is the world of combat.”¹⁰ It encompasses operations where we directly engage the enemy. In short, it is the actual arena where lives are on the line. Before evaluating the role of the JFACC at this level, consider these two orders given to a ground unit commander:

A) “Soldier, this is the situation . . . now take that hill.”

or

B) “Soldier, this is the situation . . . now take four men, each armed with a rifle and a hand grenade, and attack from the east at 2000 tonight...and take that hill.”

Which order would you (as the ground unit commander) rather receive? Which order is better? Which one is given?

Well, . . . it depends. Under most circumstances combat veterans would jump at choice A; after all, it is a “mission type” order that leaves the execution to the expert. On the other hand, sometimes choice B is necessary due to complications or restrictions outside of the unit commander’s control. Regardless of which order is given, the individual in the field is

the one whose life is at stake, and he wants to be absolutely sure that the mission is being accomplished in the very *best* way possible.

One can draw a direct analogy between the aforementioned ground soldier and an airman tasked to attack a target, thus gaining insight into the biggest point of friction between the JFACC at the operational level and of the aviators at the tactical level: when operational level control infringes on tactical level execution.

AFM 1-1 Basic Doctrine of the United States Air Force¹¹ establishes seven tenets of aerospace power; the first two are the bedrock of not just the Air Force doctrine, but for all joint air operations:¹²

- centralized control/decentralized execution
- flexibility/versatility

In theory, these appear straightforward; in practice, they can be completely contradictory. These two tenets serve to focus the debate regarding the role of the JFACC at the tactical level of conflict.

The first area of debate centers on the premise of “centralized control and decentralized execution.” Not all of the doctrine is in agreement with AFM 1-1. “Command and Control for Joint Air Operations” (Joint Pub 3-56.1) calls for “unity of effort, centralized planning, and decentralized execution.”¹³ Later the same document calls for the JFACC to provide “centralized direction for the allocation and tasking of forces . . .” and finally for “controlling execution of joint air operations . . .”¹⁴ These distinctions (or lack of) may seem academic at first; however, they are critically important at the tactical level. Is the JFACC a controller? A planner? A commander responsible for execution? What about decentralized execution?

One can see that there is considerable room for interpretation. Although each operation is unique, with a different JFC and command arrangement, most current operations use a standard tool that serves as the primary interface between the JFACC at the operational level and the units at the tactical level: the Air Tasking Order (ATO). A source of often bitter debate, the ATO has been jointly developed in both form and substance since Desert Storm, when it had to be hand delivered to Navy units at sea (due to communications system incompatibility). The progress in the administrative mechanics of the document, however, does not address the real area of contention—that of “control” versus “command” and “planning” versus “execution”.

The ATO format is relatively standardized, but content varies widely according to the individual operation or exercise. An ATO originating from an established JTF, such as Operation Deny Flight in Bosnia, tends to be *very* detailed: a typical mission will dictate aircraft type, numbers of aircraft, specific standard combat load (aircraft configuration), route of flight, time over target, altitude, frequencies, specific aimpoints, and any other pertinent restrictions. To the pilot of the mission, sometimes it seems that there is nothing left to plan—just hop in the jet and fly the profile! From firsthand experience, I know that this is exactly the opposite type of order from what a “warrior in the arena” wants to receive. This is controlling execution at the tactical level to the n^{th} degree and may work fine in a benign static threat environment; however, once the chaos of war begins, this level of control at the tactical level is at best counterproductive, and at worst fatal!

Unfortunately, there are those in positions of authority who readily believe in the *centralized control of the execution of air power*. They make a strong case for strict coordination due to geographically separated forces, airspace control restrictions, target

restrictions, collateral damage concerns, etc. This is the “one-size-fits-all” approach to the ATO: scheduling an aircraft sortie is like scheduling a TLAM—just punch it up on the computer and the flying bomb will fly a programmed profile and impact the coordinates at a precise time. The reality of a manned flight is just not that simple. Someday there may be a situation when warriors can sit at a console and execute a push button war, but that time has not yet arrived. For the foreseeable future, operators at the tactical level need to be the ones making critical decisions on such things as aircraft configuration and weapon choice (which specifically drives aircraft delivery profile). Does an F-16 stationed near the front need the same configuration as one stationed deep to the rear? How about FA-18’s flying from the aircraft carrier . . . do they need to be in the same configuration if the carrier moves 200 miles closer to the threat overnight? Choice of weapons is a particularly contentious subject at the tactical level. Why does the ATO requirement for a single two thousand pound bomb preclude the taking of two one thousand pound bombs instead? Does *every* target require a precision guided weapon? These are just some of the questions that arise at the tactical level.

Without a doubt, some missions do require oversight “to the n^{th} degree”. Sometimes the best way (or maybe the only way) to accomplish mission planning is in a highly centralized manner. This, however, should be the exception rather than the rule. U.S. Navy carrier air wings have always kept mission planning at the air wing (unit) level, mainly because that is the level of their integration. Now U.S. Air Force “composite” wings are doing much the same thing in terms of planning, but this is not an across-the-board change. It remains to be seen how the JFACC of the future will utilize truly composite air wings in an ATO that is

structured to task individual aircraft from various locations.*

Further analysis leads to another area of contention at the tactical level: the dilemma posed by the second tenet of aerospace power—"flexibility and versatility". From a warfighter's viewpoint at the tactical level, the ATO (and the ATO process) is the true opposite of "flexible and versatile". It has become so very structured and planned that it reduces the inherent ability of air power to respond to changes at the tactical level.

Part of the problem is the ATO process itself. Originally taking 72 hours, the process has been reduced to 48 hours by some JFACCs.¹⁵ This is better, but still lags far behind events in a fast moving tactical scenario. For example, in Operation Deliberate Force in Bosnia, if a target was missed on a mission (for weather, target acquisition, timing, whatever), the feedback time through the ATO process meant that the target would not be reattacked for 2-3 days. Meanwhile, new targets were attacked as aircraft flew over the first target waiting for instructions to re-strike. In practice, both the old and new targets could have been bombed within hours of the first mission! Unfortunately, warfighters at the tactical level were not allowed to make this type of decision; instead, they were *forced to forgo progress, while they waited for the (centralized) process*.

One main aspect of the ATO process that decreases flexibility is the way in which sorties are scheduled. The JFACC compiles inputs from tactical units as to aircraft availability and support requirements up to three days before the ATO is executed, which is a good way of planning the level of effort and allocating sorties as per the JFC's guidance. Once the ATO execution begins, however, it is difficult to change the numbers of sorties to effect maximum

* "JFACC: What is the Impact of the USAF Composite Wing?" is an unpublished research paper by Henry J. Coble. Although somewhat dated (1992), it addresses this specific issue.

efficiency. If units cannot meet their schedule, they must cancel sorties... something that unit commanders are loath to do. To eliminate this possibility, some units schedule less than they really can produce; thus, when the ATO is executed, they have excess availability that could be (but rarely is) added to the ATO. On the other hand, some tactical level unit commanders schedule excess sorties and just cancel them if they cannot fill the mission. In this case, the plan is known to be inaccurate from the start!

Another source of inflexibility stems from difficulties in changes to the ATO. In theory, it is easy: contact the JAOC and explain why the change is needed and the JAOC makes the change. In practice, however, this is not practical for fast-paced *tactical* decisions. Imagine the gridlock that would occur if there was a major sudden breakthrough (by either us or the enemy): being able to rapidly exploit that breakthrough (or stop it) requires streamlined flexible reaction at the tactical level, something that is difficult in a *centralized control* system. What the unit at the tactical level ends up doing is basically "making the best of it". If the ATO calls for a specific aircraft configuration that does not make tactical sense, the unit flies what it needs to get the mission done. If the ATO schedules one airplane when the unit thinks two are needed, they either call for a change to the ATO, or just launch a "spare" and rectify it once airborne. This "work around the ATO" mentality persists at the tactical level.

The final area of friction at the tactical level is one that is easily recognized by ground units, but is more difficult to execute with aviation units: the use of *mission type orders*. With reference to the previously described situation in Bosnia when attackers had to wait three days to re-strike a target, imagine the possibilities if they had been given a mission type order rather than assigned a very specific singular sortie: they could have certainly destroyed the target much sooner. Restricted missions are sometimes required, but not in every

situation. Currently, detailed ATOs sometimes give back-up targets for aircraft to strike if primary targets cannot be attacked. A better solution would be to assign back-up *missions*. For example: a pilot is given a mission of destroying a bridge along a major supply route. What if he sees a convoy along the route? Under current JFACC guidelines, he would have to contact the JAOC (or airborne control platform) and report it first—a delay that might allow the convoy to evade or take defensive action. If, however, the pilot had been given a mission type order to interdict the supply route, he could *take the initiative* to strike both the bridge and the convoy! That is the type of tactical decision making that makes the best use of aerospace power, and it is missing in the current system.

In its current form, the interaction between the JFACC at the operational level and the aircrew at the tactical level works directly against the first two tenets of aerospace power and fails to use the advantage of mission type orders. This stifles initiative at the tactical level and precludes the realization of the maximum benefit from aerospace power.

The following passage was written for Joint Force Quarterly about the military implications of the current information revolution, but it has direct application to the way a JFACC intercedes to control operations at the tactical level:

The industrial model can be described as a centralized *detail-control* mindset that is derived from a desire for certainty, order, and precision. The information model can be characterized as a decentralized *mission-control* mindset that stems from an acceptance of uncertainty, disorder, and friction as inherent aspects of war. Supporters of detail-control—that is, system of system RMA adherents—believe that the information revolution will eventually lift the fog of war, giving commanders an omniscient view of battlespace. This is a pipe dream because war is inherently chaotic and ... will hobble centralized power structures.... A centralized structure simply cannot direct events in such an environment or even hope to keep track of them.... The military will have to restructure and flatten out its hierarchy and rely on decentralized control.¹⁶

Currently the JFACC operates on the premise that it can control tactical execution from the operational level. In some operations this may be warranted and executable; however, for future dynamic operations in which joint forces may be engaged, this could be a recipe for disaster.

RECOMMENDATIONS

Over the last few years there has been a steady development of the JFACC concept. Although the doctrine is just now beginning to become practical for the warfighter at the operational level, there remains the opportunity for consequential adjustments that will ensure the most effective capability from our joint force structure. These recommendations are based on both research and experience with the JFACC at the tactical and operational levels.

At the strategic-operational level:

- Make strategy and campaign planning a truly joint endeavor—not joint in the “service” sense of the word, but in the “functional” sense of the word.
- Make targeting a process for all of the components, not just the one with the preponderance of assets; targeting should not just be from an air power perspective; distinguish between the JTL and the joint *air* target list.
- Ensure that JFACC tasking/apportionment is in accordance with the JFC’s guidance and that the supported/supporting relationship is understood by all of the components.

At the operational-tactical level...

- Stress *centralized planning and decentralized execution*; use centralized *control* only when necessary...this should be the exception rather than the rule.

- Construct the ATO only as a blueprint, not as something that prevents warfighters at the tactical level from remaining flexible. Mission type orders encourage initiative!
- When assigning missions, give restrictions only if required; do not make mission restrictions just a matter of course. To the maximum extent allowable for the scenario, give tactical level units control over executing and changing the ATO.
- Leave the tactical decisions at the tactical level; aircrew can and should weaponize targets and make mission essential decisions. Once again, give restrictions only if required.
- Keep the mission planning at the lowest level possible; composite wings operate as a unit—do not replace or duplicate their capabilities.
- Refrain from the inflexible approach of scheduling sorties just as if they were cruise missiles; this restricts sortie versatility and limits options at the tactical level.

CONCLUSION

The JFACC concept has been a very positive result of the continued development of joint warfare. The benefits to be gained from using aerospace power to its fullest capacity can ensure dominance across the range of conflict. The challenge remains to continue to refine the “fit” of the JFACC into its proper place at the operational level of warfare. By supporting the structure at the strategic level, the JFACC can use the inherent multidimensional power of aerospace assets to achieve maximum overall impact. Meanwhile, at the operational-tactical level, the challenge is to find the relationship where tactical level warfighters have the knowledge of the mission and the latitude to help achieve operational objectives in the most effective way possible. The JFACC is in a position to empower warfighters at the tactical level to push the fight to the enemy.

NOTES

- ¹ Joint Chiefs of Staff, Joint Pub 1-02 (Washington, DC, 1994) and Joint Pub 3-0 (Washington, DC, 1995).
- ² Joint Chiefs of Staff, Joint Pub 3-0 (Washington, DC, 1995), II-12,13.
- ³ Joint Chiefs of Staff, Joint Pub 3-56.1 (Washington, DC, 1994), I-2.
- ⁴ Ibid., II-2.
- ⁵ Ibid., II-3.
- ⁶ Joint Military Operations Department, Glossary of Operational Terms, NWC 4091 (U.S. Naval War College, RI: 1996), 13.
- ⁷ Joint Chiefs of Staff, Joint Pub 3-0, II-2.
- ⁸ Joint Chiefs of Staff, Joint Pub 3-56.1, IV-1.
- ⁹ Dwight R. Motz, "JFACC: The Joint Air Control 'Cold War' Continues...", Marine Corps Gazette, January 1993, 65-71.
- ¹⁰ Joint Military Operations Department, Glossary of Operational Terms, 12.
- ¹¹ U.S. Air Force, AFM 1-1, Basic Aerospace Doctrine of the United States Air Force (Washington, DC: 1991).
- ¹² Joint Chiefs of Staff, Joint Pub 3-56.1, v.
- ¹³ Ibid., v-vi.
- ¹⁴ Ibid., II-2.
- ¹⁵ Peter P. Perla, Barry P. Messina, John Parsons, Richard K. Phares, Gregory Swider, and Maureen A. Wigge, The Navy and the JFACC: Making Them Work Together. (Alexandria, VA: Center for Naval Analyses, 1993), 38.
- ¹⁶ Gary W. Anderson, and Terry C. Pierce, "Leaving The Technocratic Tunnel," Joint Force Quarterly, Winter 1995-96, No. 10, 69-75.

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